

## **REMARKS/ARGUMENTS**

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith. The present amendment is being made to facilitate prosecution of the application.

### **I. STATUS OF THE CLAIMS AND FORMAL MATTERS**

Claims 1, 2, 4-11, 29-38 and 55-58 are pending. Claims 1, 6, 29, 31, 35, 55 and 57 are independent and hereby amended. No new matter has been added. It is submitted that these claims, as originally presented, were in full compliance with the requirements of 35 U.S.C. §112. Changes to claims are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

### **II. SUPPORT FOR AMENDMENT IN SPECIFICATION**

Support for this amendment is provided throughout the Specification as originally filed and specifically at paragraphs [0126], [0199] and Fig. 26 of Applicants' corresponding published application. By way of example and not limitation:

**[0126] The characteristic amounts used for estimating the state of the audience 60 may be selected and used according to the contents provision state.** When the movement of the audience 60 can be preferably obtained and sound including voice is difficult to obtain, the characteristic amounts showing a magnitude and periodicity of movement are mainly used to estimate an audience state. When the movement of the audience 60 is difficult to obtain and sound including voice can be preferably obtained, the characteristic amounts showing a volume and periodicity of sound are mainly used to estimate an audience state. As shown in FIG. 26, in a concert, as indicated by .largecircle., the characteristic amounts 301, 305 and 304 respectively showing a magnitude of

movement, periodicity of sound and a volume of sound are used. In a dark movie theater, the characteristic amounts 303, 305 and 304 respectively showing a power spectrum, periodicity of sound and a volume of sound are used. In a sports relay whose periodicity of sound is less than that of the concert, the characteristic amounts 301, 302 and 304 respectively showing a magnitude of movement, periodicity of movement and a volume of sound are used. The characteristic amounts used for estimating the audience state are selected according to a contents provision state to estimate the audience state more properly.

[0199] Thus, characteristic amounts are detected based on the frequency components of movement and sound so that the audience state can be estimated using the characteristic amounts. When the characteristic amounts are detected based on the frequency components of movement and sound, AND or OR of the estimated result of the characteristic amount based on the video signal and the estimated result of the characteristic amount based on the audio signal is calculated. When the estimated results are different, one estimated result can be obtained. As in FIG. 23, **the characteristic amounts used for estimating the state of the audience 60 may be selected according to the contents provision state.** An integrated value may be decided from plural characteristic amounts to compare the integrated value with a threshold value for estimating an audience state.

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	CHARACTERISTIC AMOUNTS USED FOR ESTIMATION				
	AT ESTIMATION OF BEATING TIME WITH THE HANDS AND CLAPPING, AND LAUGHING AND OTHER MOVEMENT		AT ESTIMATION OF BEATING TIME WITH THE HANDS AND CLAPPING		CHARACTERISTIC AMOUNT 304
	CHARACTERISTIC AMOUNT 301	CHARACTERISTIC AMOUNT 303	CHARACTERISTIC AMOUNT 302	CHARACTERISTIC AMOUNT 305	
CONCERT	○			○	○
MOVIE THEATER		○		○	○
SPORTS RELAY	○		○		○
⋮					

### III. RESPONSE TO REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 1, 2, 4, 5, 29-34 and 55-58 were rejected under 35 U.S.C. §103(a) over

U.S. Patent No. 7,266,771 to Tow (hereinafter, merely "Tow") in view of U.S. Patent No.

6,256,400 to Takata (hereinafter, merely “Takata”) and further in view of U.S. Patent No. 5,907,361 to Okada (hereinafter, merely “Okada”).

Claims 6-8 and 35-36 were rejected under 35 U.S.C. §103(a) over Tow in view of Takata in view of Okada and further in view of U.S. Patent No. 7,373,209 to Tagawa (hereinafter, merely “Tagawa”).

Claims 9, 10 and 37 were rejected under 35 U.S.C. §103(a) over Tow in view of Takata in view of Okada and further in view of U.S. Patent No. 5,550,928 to Lu (hereinafter, merely “Lu”).

Claims 11 and 38 were rejected under 35 U.S.C. §103(a) over Tow in view of Takata in view of Okada in view of Tagawa and further in view of WO 91/03912 to Stevens (hereinafter, merely “Stevens”).

Claim 1 recites, *inter alia*:

**...wherein the movement amount is selected to estimate an audience state based on a contents provision state...** (Emphasis added)

As understood by Applicants, Takata relates to a method and device for automatically segmenting hand gestures for sign language, for example, into words when recognizing the hand gestures.

Applicants submit that neither Tow nor Takata nor Okada, taken alone or in combination, would disclose or render predictable the above-identified features of claim 1. Specifically, none of the references used as a basis for rejection discloses or renders predictable **“wherein the movement amount is selected to estimate an audience state based on a contents provision state,”** as recited in claim 1.

Specifically, the Office Action (see page 2) asserts that Tow teaches movement amount detection device for detecting a movement amount of said audience based on said video signal, and refers to Tow, Col.3, lines 20-35, Col.6, lines 47-59 and Col.8, lines 14-65, which are reproduced as follows:

*Tow, Col.3, lines 20-35:*

In a preferred embodiment, the motion vectors that are included in an MPEG file are used to help determine the type of motion energy in a particular frame or frames of a video. Although the present invention will be described in the context of MPEG, it will be appreciated by one of skill in the art that other compression methods may also provide motion information that can be used to implement the present invention. Traditionally, motion vectors in an MPEG file have been used to assist in the compression and decompression of video by indicating movement of pixels from frame to frame. Advantageously, the present invention realizes that such a motion vector may be used for entirely different purposes, and makes use of these motion vectors to indicate a type of motion energy at a particular place in the video information which is then presented to a viewer in a graphically intuitive manner.

*Tow, Col.6, lines 47-59:*

More specifically, motion compensation performs differential encoding of frames. Certain frames, such as I-frames in MPEG-2, continue to store the entire image, and are independent of other frames. Differential frames, such as B-frames or P-frames in MPEG-2, store motion vectors associated with the difference and coordinates of particular objects in the frames. The difference between frame portions can be represented by motion vectors. In MPEG-2, P-frames reference a single frame while B-frames reference two different frames. Motion compensation allows fairly high reduction ratios by carrying motion information in an MPEG stream instead of explicit video information. That is, motion information instead of image information is retained.

*Tow, Col.8, lines 14-65:*

FIG. 2 is a diagrammatic representation showing motion information associated with an MPEG bit stream that can be processed...

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Similarly, block 209e now contains empty space where block 207c contained a ball. Block 209e can reference block 207c containing empty space by using motion vector (1,1). The other blocks of frame 209 remain unchanged and do not require motion vectors. A motion vector (0,0) can indicate that the particular block remains unchanged from the prior frame.

Thus, Applicants submit that Tow fails to disclose or render predictable **“wherein the movement amount is selected to estimate an audience state based on a contents provision state,”** as recited in claim 1.

Furthermore, this deficiency of Tow is not cured by the supplemental teaching of Takata or Okada.

Therefore, Applicants submit that independent claim 1 is patentable and respectfully request reconsideration and withdrawal of the rejection.

For reasons similar to, or somewhat similar to, those described above with regard to independent claim 1, independent claims 6, 29, 31, 35, 55 and 57 are also patentable, and Applicants thus respectfully request reconsideration of the rejections thereto.

#### **IV. DEPENDENT CLAIMS**

The other claims in this application are each dependent from one of the independent claims discussed above and are therefore believed patentable for at least the same reasons. Applicants thereby respectfully request reconsideration and withdrawal of rejections thereto. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

### CONCLUSION

Because Applicants maintain that all claims are allowable for at least the reasons presented hereinabove, in the interests of brevity, this response does not comment on each and every comment made by the Examiner in the Office Action. This should not be taken as acquiescence of the substance of those comments, and Applicants reserve the right to address such comments.


In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited reference, or references, it is respectfully requested that the Examiner specifically indicate those portions of the reference, or references, providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable and Applicants respectfully request early passage to issue of the present application.

Respectfully submitted,

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